

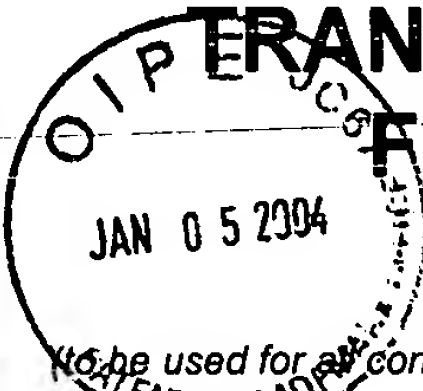
Please type a plus sign (+) inside this box ☐

PTO/SB/21 (08-00)


Approved for use through 10/31/02. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM  (to be used for all correspondence after initial filing)	Application Number	09/788,273
	Filing Date	Feb. 16, 2001
	First Named Inventor	Jiping Li
	Group Art Unit	2823
	Examiner Name	Michelle Estrada
Total Number Of Pages In This Submission	8 + (cited ref.)	Attorney Docket No. BOX009 US

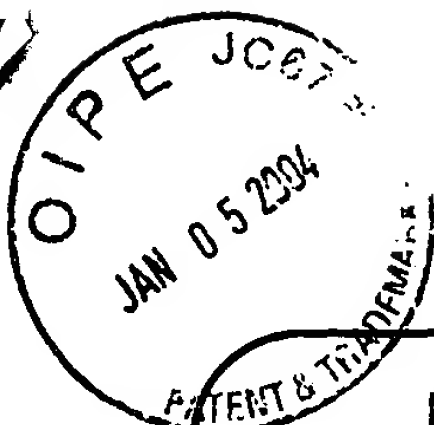
ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Assignment Papers (for an Application)	<input type="checkbox"/> After Allowance Communication to Group
<input checked="" type="checkbox"/> Fee Attached -- Credit Card Payment Form (1 pg)	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment / Reply	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declarations	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Power of Attorney, Revocation of Previous Powers; And Statement Under 37 CFR 3.73(b)	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	Return Receipt Postcard
<input checked="" type="checkbox"/> Information Disclosure Statement (2 pgs)	<input type="checkbox"/> Request for Refund	PTO Form 1449 (3 pages)
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	Copies of 33 Cited References
<input type="checkbox"/> Response to Missing Parts/ Incomplete Application (2 pages)	Remarks PLEASE UPDATE YOUR RECORDS TO SHOW THAT ASSIGNEE NO LONGER CLAIMS SMALL ENTITY STATUS	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

SIGNATURE OF APPLICANT, ATTORNEY OR AGENT	
Firm or Individual Name	Omkar K. Suryadevara (Reg. No. 36,320) Silicon Valley Patent Group LLP 2350 Mission College Boulevard, Suite 360 Santa Clara, California 95054
Signature	
Date	January 5, 2004

EXPRESS MAIL LABEL NO.: ER 308 113 871 US

Burden Hours Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Arlington, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Arlington, VA 22313-1450.

RECEIVED
JAN 12 2004
TECHNOLOGY CENTER 2800



61

Modified PTO/SB/17 (09-00)

Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**FEE TRANSMITTAL
FOR FY 2004**

Patent fees are subject to annual revision.

Complete if Known

Application Number	09/788,273
Filing Date	Feb. 16, 2001
First Named Inventor	Jiping Li
Group Art Unit	2823
Examiner Name	Michelle Estrada
Attorney Docket No	BOX009 US

TOTAL AMOUNT OF PAYMENT

(\$)**180.00**

METHOD OF PAYMENT

- 1.
- ☒
- The Commissioner is hereby authorized to charge any underpayment and credit any overpayments to:

Deposit Account Number **50-2263**Deposit Account Name **Silicon Valley Patent Group LLP**

- ☐
- Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17
-
- ☐
- Applicant claims small entity status. See 37 CFR 1.27

- 2.
- ☒
- Payment Enclosed:

☐ Check ☒ Credit Card ☐ Money Order ☐ Other

FEE CALCULATION

1. BASIC FILING FEE

Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) (\$)**0.00**

2. EXTRA CLAIM FEES

Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid
1202	18	2202	9	Claims in excess of 20	
1201	86	2201	43	Independent claims in excess of 3	
1203	290	2203	145	Multiple dependent claims, if not paid	
1204	86	2204	43	**Reissue independent claims over original patent	
1205	18	2205	9	**Reissue claims in excess of 20 and over original patent	

SUBTOTAL (2) (\$)**0.00**

** or number previously paid, if greater; For reissues, see above.

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,300	2453	650	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee for provisional applications	
1806	180	1806	180	Submission of Information Disclosure Statement	180
8021	40	8021	40	Recording each patent assignment per properties (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR § 1.129(b))	
1801	770	2801	375	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3)

(\$)**180.00**

SUBMITTED BY

Name (Print/Type) **Omkar K. Suryadevara**

Registration No. (Attorney/Agent)

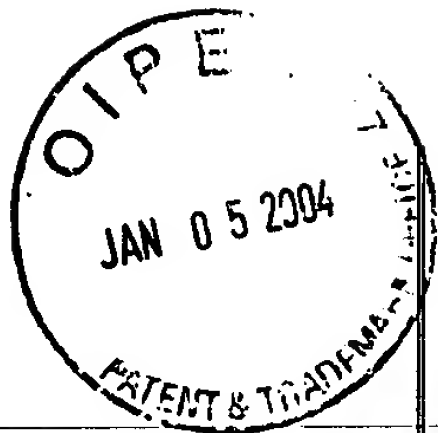
36,320

Complete (if applicable)

Telephone **(408) 982-8200 ext. 3**

Signature

S. OmkarDate **January 5, 2004**



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: Jiping Li; Peter G. Borden
Assignee: Boxer Cross
Title: Evaluating Sidewall Coverage In A Semiconductor Wafer
Serial No.: 09/788,273 Filing Date: Feb. 16, 2001
Examiner: Michelle Estrada Group Art Unit: 2823
Docket No.: BOX009 US Confirmation No: 6335

Santa Clara, California
January 5, 2004

COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §1.97(c)**

Dear Sir:

Pursuant to 37 C.F.R. § 1.56, §1.97 and §1.98, the Applicants submit for consideration in the above-identified patent application the document listed on the accompanying Form PTO-1449. Copies of references numbered 24-56 are submitted herewith. The Examiner is requested to make these documents of record. The remaining references are not attached hereto, because these references are issued patents which are readily available in the U.S. Patent and Trademark Office.

This Information Disclosure Statement is submitted pursuant to 37 CFR §1.97(c) as it is after receipt of a first Office Action on the merits but before mailing of a final Action or Notice of Allowance. Accordingly, a fee is required pursuant to 37 CFR §1.17(p). A Fee Transmittal form (PTO/SB/17) is attached to this submission.

Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

In addition, Applicants submit for the Examiner's consideration, the prosecution histories of the following co-owned applications/patents, cited by serial number, first named inventor and filing date. The Applicants presume that the Examiner has access to and will review the cited applications/patents and the files thereof for any office actions,

RECEIVED
JAN 12 2004
TECHNOLOGY CENTER 2000

SILICON VALLEY
PATENT GROUP LLP

2350 Mission College Blvd.
Suite 360
Santa Clara, CA 95054
(408) 982-8200
FAX (408) 982-8210

amendments or other materials that may be relevant to the patentability of the claims of the present application.

Citation of these prosecution histories (including the arguments against patentability advanced by Examiners in their respective Office Actions and the Applicants' arguments in the corresponding Amendments) is in accordance with the recent case DAYCO PRODUCTS, INC. v. TOTAL CONTAINMENT, INC., 02-1497, decided May 23, 2003 by the Court of Appeals for the Federal Circuit. The Examiner is presumed to be knowledgeable about the current case law, including the above-mentioned Dayco case. However, if the Examiner needs a copy of the Dayco case, please call the undersigned.

For any of the following U.S. patent application(s) that are currently pending, the Applicants further presume that the Examiner will consider any future office actions, amendments or other materials in the file thereof that may be relevant to the patentability of the claims herein. **If the Applicants' understanding in this regard is not correct, please notify the undersigned so that copies of any such documents can be submitted to the Examiner.**

	Serial No.:	First Named Inventor	Date:
1.	10/090,316	Peter G. Borden	03/01/2002
2.	09/974,571	Peter G. Borden	10/09/2001
3.	10/090,287	Peter G. Borden	03/01/2002
4.	09/521,232	Peter G. Borden	03/08/2000
5.	10/090,262	Peter G. Borden	03/01/2002
6.	10/722,724	Peter G. Borden	11/25/2003
7.	09/095,805	Peter G. Borden	06/10/1998

The information contained in this Information Disclosure Statement is to the best of my knowledge and is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

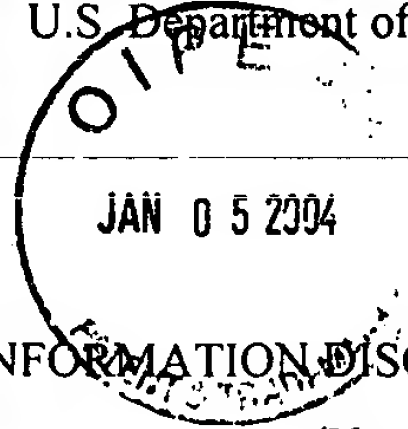
**Via Express Mail Label No.
ER 308 113 871 US**

Respectfully submitted,



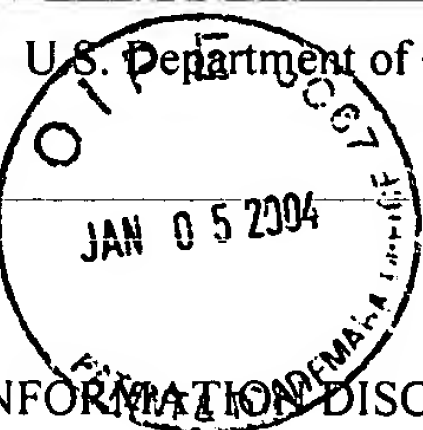
Omkar K. Suryadevara
Attorney for Applicants
Reg. No. 36,320

SILICON VALLEY
PATENT GROUP LLP
2350 Mission College Blvd.
Suite 360
Santa Clara, CA 95054
(408) 982-8200
FAX (408) 982-8210

U.S. Department of Commerce, Patent and Trademark Office  INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	Application No.:	09/788,273
	Filing Date:	Feb. 16, 2001
	First Named Inventor:	Jiping Li
	Group Art Unit:	2823
	Examiner Name:	Michelle Estrada
	Confirmation No.:	6335
	Attorney Docket No.:	BOX009 US

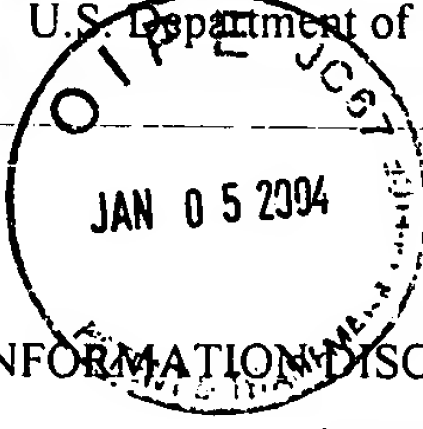
Foreign Patent Documents								
							Translation	
		Document	Date	Country	Class	Subclass	Yes	No
Other Art (Including Author, Title, Date, Pertinent Pages, Etc.)								
	24.	J. Opsal, "High Resolution Thermal Wave Measurements and Imaging of Defects and Damage in Electronic Materials" Photoacoustic and Photothermal Phenomena II, Springer Series in Optical Sciences, Vol. 62, Springer Verlag Berlin, Heidelberg, 1990.						
	25.	A. Rosencwaig, "Thermal Wave Measurement of Thin-Film Thickness", 1986 American Chemical Society, pp.182-191						
	26.	A. Rosencwaig et al., "Thin-Film Thickness Measurements with Thermal Waves", Journal De Physique, October 1983, pp. C6-483 - C6-489						
	27.	W. L. Smith et al. "Thermal-wave Measurements and Monitoring of TaSiX Silicide Film Properties" J. Vac. Technol.B2(4), Oct.-Dec. 1984, pp. 710-713						
	28.	A. Salnick et al., "Nonlinear Fundamental Photothermal Response in 3D Geometry: Experimental Results for Tungsten", (believed to be prior to March 1, 2002)						
	29.	S. Ameri et al., "Photo-Displacement Imaging", March 30, 1981, pp. 337-338						
	30.	L. Chen et al., "Thermal Wave Studies of Thin Metal Films Using the Meta-Probe-A New Generation Photothermal System" 25th Review of Progress in QNDE, Snowbird, UT 19-24 July, 1998, pp 1-12						
	31.	P. Alpern and S. Wurm, "Modulated Optical Reflectance Measurements on Bulk Metals and Thin Metallic Layers", J. Appl. Phys. 66(4), 15 August 1989, pp 1676-1679						
	32.	J. Opsal, "The Application of Thermal Wave Technology to Thickness and Grain Size Monitoring of Aluminum Films", SPIE Vol. 1596 Metalization Performance and Reliability Issues for VLSI and ULSI (1991), pp 120-131						
	33.	A. Rosenwaig, "Process Control In IC Manufacturing With Thermal Waves", Review of Progress in Quantitative Nondestructive Evaluation, Vol.9, 1990, pp 2031-2037						
	34.	K. Farnaam, "Measurement of Aluminum Alloy Grain Size on Product Wafers and its Correlation to Device Reliability", 1990 WLR Final Report, pp 97-106						
	35.	B.C. Forget et al., "High Resolution AC Temperature Field Imaging", Electronic Letters 25th September 1997, Vol. 33 No. 20, pp 1688-1689						
	36.	C. Paddock et al., "Transient Thermoreflectance from Metal Films", May 1986 Vol. 11, No. 5 Optical Letters, pp 273-275						
	37.	C. Paddock et al., "Transient Thermoreflectance from Metal Films", J. Appl. Phys. 60(1), 1 July 1986, pp 285-290						
	38.	Per-Eric Nordail et al. "Photothermal Radiometry", Physica Scripta, Vol. 20, 659-662, 1979						

Examiner: -	Date Considered:-
* Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication with applicant.	

 <p>U.S. Department of Commerce, Patent and Trademark Office</p> <p>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p>(Use several sheets if necessary)</p>	Application No.:	09/788,273
	Filing Date:	Feb. 16, 2001
	First Named Inventor:	Jiping Li
	Group Art Unit:	2823
	Examiner Name:	Michelle Estrada
	Confirmation No.:	6335
	Attorney Docket No.:	BOX009 US

39	A. Rosenwaig, "Thermal Wave Monitoring and Imaging of Electronic Materials and Devices", pp 73-109
40	A. Rosenwaig, "Applications of Thermal-Wave Physics to Microelectronics", VLSI Electronics, Microstructure Science Vol. 9, 1995, pp 227-288
41	W. Lee Smith et al., "Voids, Notches and Micros-cracks in Al Metallization Detected by Nondestructive Thermal Wave Imaging", June 23, 1989, pp. 211-221
42	W. Lee Smith et al., "Imaging of Subsurface Defects in ULSI Metalization (Al Voids SI Precipitates, Silicide Instability) and SI Substrates (D Defects), Technical Proceedings Simicon/Japan 1992, Nippon Convention Center, Japan pp 238-246
43	W. Lee Smith, "Nondestructive Thermal Wave Imaging of Voids & Microcracks in Aluminum Metallization", 1989 WLR Final Report, pp 55-68
44	W. Lee Smith, "Direct Measurement of Stress-Induced Void Growth by Thermal Wave Modulated Optical Reflectance Imaging", 1991 IEEE/IRPS, pp 200-208
45	W. Lee Smith, "Evaluating Voids and Microcracks in Al Metalization", Semiconductor International, January 1990, pp 232 -237
46	C. G. Welles et al., "High-Resolution Thermal Wave Imaging of Surface and Subsurface Defects in IC Metal Lines", Materials Research Society, SF Marriott, April 27-May 1, 1992, pp 1187-1191
47	L. Fabbri et al., "Analysis of Local Heat Transfer Properties of Tape-cast AlN Ceramics Using Photothermal Reflectance Microscopy", 1996 Chapman & Hall, pp 5429-5436
48	J. A. Batista et al., "Biased MOS-FET and Polycrystalline Silicon Tracks Investigated by Photothermal Reflectance Microscopy", pp 468-469
49	L. Chen et al., "Meta-Probe: A New Generation Photothermal System For Thin Metal Films Characterization" (believed to be prior to February 16, 2001)
50	L. Chen et al., "Thermal Wave Studies of Thin Metal Films and Structures", (believed to be prior to March 1, 2002)
51	9th International Conference on Photoacoustic and Photothermal Phenomena Conference Digest, June 27-30, 1996 Nanjing, P.R. China, pp 81
52	R. S. Sharpe, "Research Techniques in Nondestructive Testing Vol. VII, Academic Press 1984, pp 158-365
53	R. L. Thomas et al., "Thermal Wave Imaging For Nondestructive Evaluation" 1982 Ultrasonic Symposium, pp 586-590
54	G. Slade Cargill III, "Electron-Acoustic Microscopy", Physics Today, October 1981, pp 27-32
55	A. Rosencwaig, "Thermal Wave Microscopy", Solid State Technology, March 1982, pp 91-97
56	Eric A. Ash, "Acoustical Imaging" Volume 12, Plenum Press, July 19-22, 1982, pp 61-65

Examiner:	Date Considered:
<p>* Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication with applicant.</p>	

U.S. Department of Commerce, Patent and Trademark Office  INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	Application No.:	09/788,273
	Filing Date:	Feb. 16, 2001
	First Named Inventor:	Jiping Li
	Group Art Unit:	2823
	Examiner Name:	Michelle Estrada
	Confirmation No.:	6335
	Attorney Docket No.:	BOX009 US

U.S. Patent Documents

*Examiner Initials		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	1.	6,483,594	11/19/02	Borden et al.	356	502	
	2.	6,154,280	11/2/00	Borden	356	376	
	3.	5,883,518	3/16/99	Borden	324	752	
	4.	5,877,860	3/2/99	Borden	356	376	
	5.	5,574,562	11/12/96	Fishman et al.	356	432	
	6.	3,803,413	4/9/74	Vanzetti et al.	250	338	
	7.	2003/0036231A1	2/20/03	Bhattacharva et al.	438	201	
	8.	2002/0186045A1	12/12/02	Cox	326	41	
	9.	2003/96436A1	5/22/03	Satya et al.	438	11	
	10.	2003/0155927A1	8/21/03	Pinto et al.	324	501	
	11.	5,074 669	12/1/91	Opsal	356	447	
	12.	5,657,754	8/19/97	Rosencwaig	128	633	
	13.	4,634,290	1/6/87	Rosencwaig	374	5	
	14.	4,552,510	6/11/85	Rosencwaig	374	7	
	15.	4,243,327	1/6/81	Frosch et al.	356	432	
	16.	3,930,730	1/6/76	Laurens et al.	356	106	
	17.	4,455,741	6/26/84	Kolodner	29	574	
	18.	4,468,136	6/26/84	Murphy et al.	374	45	
	19.	4,466,748	8/21/84	Needham	374	129	
	20.	5,408,327	4/18/95	Geiler et al.	356	432	
	21.	4,795,260	1/3/89	Schuur et al.	356	400	
	22.	3,462,602	8/16/67	Apple	250	83.3	
	23.	5,149,978	9/22/92	Opsal et al.	250	234	

Examiner:

Date Considered:

* Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication with applicant.